

Patent claims

1. A hardtop vehicle roof (1) having three rigid roof parts (2 to 4) which can be adjusted between a closed position covering the vehicle interior and a put-away position opening up the vehicle interior, and, in the closed position, are arranged situated one behind another in the longitudinal direction of the vehicle, and are in each case provided with an adjusting kinematics (8 to 10), which is designed as a four-bar kinematics and has a driving link (13; 14; 44 and 45), for adjusting the roof position, and are connected to one another, and also are jointly supported against the vehicle body via the adjusting kinematics (9) of a roof part (3), the roof parts (2 to 4), in the put-away position, being situated one above another and forming a package of roof parts, wherein, in the put-away position, in the package of roof parts, with the roof parts (2 to 4) stacked in the same direction with the outside of the roof facing upward, the central roof part (3) is put away lowermost and the two further roof parts (2; 4) are situated above the central roof part (3), wherein the central roof part (3) is provided as the roof part which jointly supports the roof parts (2 to 4) against the body, and wherein the adjusting drive (12) for adjusting the front roof part (2) and the rear roof part (4) in relation to the central roof part (3) is provided on the central roof part (3) and, following the adjusting kinematics (8; 10) of the front roof part (2) and rear roof part (4), comprises driving countershaft assemblies (15, 16) of which one driving countershaft assembly (16) is formed by a four-bar mechanism, the base of which is fixed in position with respect to the central roof part (3) and the links (37; 40) of which, which connect the base and connecting rod, cross over each other in

the closed position of the roof parts (2 to 4),  
one link (37) of the crossing-over links (37; 40)  
being fixed in position with respect to the  
driving link (14) of the four-bar kinematics (4)  
5 supporting the associated roof part (4).

2. The hardtop vehicle roof as claimed in claim 1,  
wherein one of the driving countershaft assemblies  
10 (15) is designed as a five-bar mechanism, the base  
of which is fixed in position with respect to the  
central roof part (3) and one of the links (32; 33; 34; 36)  
15 of which forms a link (32) which is  
fixed in position with respect to the driving link  
(13) of the four-bar kinematics (8) supporting the  
associated roof part (2), and one forms a link  
(34) which is fixed in position with respect to an  
adjusting lever (22) of the adjusting drive (12)  
20 connecting the front roof part (2) and the rear  
roof part (4), that link (34) of the five-bar  
mechanism which is fixed in position with respect  
to the one adjusting lever (22) of the adjusting  
drive (12) being guided via a link (35) which is  
coupled to the base of said mechanism.
- 25 3. The hardtop vehicle roof as claimed in claim 1 or  
2, characterized in that the adjusting drive (12)  
for the front roof part (11) and the rear roof  
part (4) has a common driving source (adjusting  
cylinder 19).
- 30 4. The hardtop vehicle roof as claimed in claim 3,  
characterized in that the driving source is formed  
by a linear drive, in particular an adjusting  
cylinder (19).
- 35 5. The hardtop vehicle roof as claimed in claim 3 or  
4, wherein the adjusting drive (12) has an  
adjusting arm (17) which is coupled to the central  
roof part (3) and from which adjusting-lever

connections to the adjusting kinematics (8; 10) supporting the front roof part (2) and the rear roof part (4) are provided.

- 5 6. The hardtop vehicle roof as claimed in claim 2, wherein the driving countershaft assembly (15) situated in the transition to the front roof part (2) is designed as a five-bar mechanism.
- 10 7. The hardtop vehicle roof as claimed in claim 1, wherein the driving countershaft assembly situated in the transition to the front roof part (4) is designed as a four-bar mechanism.
- 15 8. The hardtop vehicle roof as claimed in one of the preceding claims, wherein, in the put-away position, in the package of roof parts the central roof part (3) is put away lowermost, the front roof part (2) is put away in the middle and the 20 rear roof part (4) is put away uppermost.
9. The hardtop vehicle roof as claimed in one of claims 1 to 7, wherein, in the put-away position, in the package of roof parts the central roof part 25 (3) is put away lowermost, the front roof part (2) is put away uppermost and the rear roof part (4) is put away in the middle.
10. The hardtop vehicle roof as claimed in one of the 30 preceding claims, wherein, during the transfer of the roof parts (2 to 4) between their closed position and put-away position, the front roof part (2) and the rear roof part (4) can be adjusted simultaneously, in particular in a 35 synchronous, isochronous movement.